Cotton/Soybean Insect Newsletter

Volume 13, Issue #7 Edisto Research & Education Center in Blackville, SC 15 June 2018

Pest Patrol Alerts

The information contained herein each week is available via text alerts that direct users to online recordings. I will update the short message weekly for at least as long as the newsletter runs. After a new message is posted, a text message is sent to alert users that I have recorded a new update. Users can subscribe for text message alerts for my updates in two easy steps. Step one: register by texting **pestpat7** to 97063. Step two: reply to the confirmation text you receive by texting the letter "y" to complete your registration. Pest Patrol Alerts are sponsored by Syngenta.

Updates on Twitter

When noteworthy events happen the in the field, I will be sending them out quickly via Twitter. If you want to follow those quick updates, follow me at @bugdocisin on Twitter.

News from Around the State

Charles Davis, county agent covering Calhoun and Richland Counties, reported that "things are pretty quiet here. Most cotton is past the thrips damage stage. Farmers are concentrating on weed control and getting fertilizer spread. I haven't heard of or seen any major issues." **Jay Crouch**, county agent covering Newberry, Saluda, and Edgefield Counties, reported "things are fairly quiet here at the moment." Most other agents are reporting the same lull right now for insect activity.

Scouting Workshops

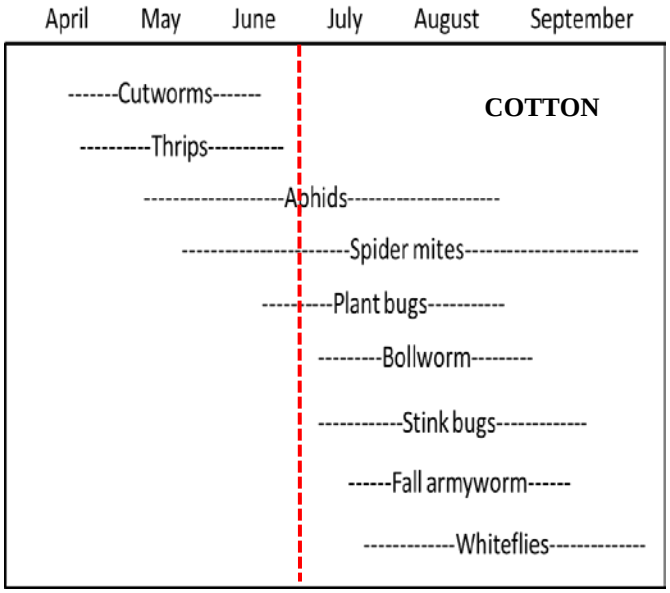
Your ag-focused county agents and I will be offering some in-field scouting workshops for cotton and soybean insects this summer, so stay tuned for those dates. The interactive workshops will be held on 18 July in Cameron, SC, and somewhere in the Pee Dee Region on 31 July. We might have another training in the southern portion of the state…still working on that one. The trainings will be free to attend, start in the morning, and end with lunch. Stay tuned for more information!

Cotton Situation

As of 10 June 2018, the USDA NASS South Carolina Statistical Office estimated that about 92% of the crop has been planted, compared with 85% the previous week, 94% at this time last year, and 92% for the 5-year average. About 4% of the crop is squaring, compared with 0% the previous week, 10% at this time last year, and 6% for the 5-year average. The condition of the crop was described as 14% excellent, 62% good, 22% fair, 2% poor, and 0% very poor. These are observed/perceived state-wide averages.

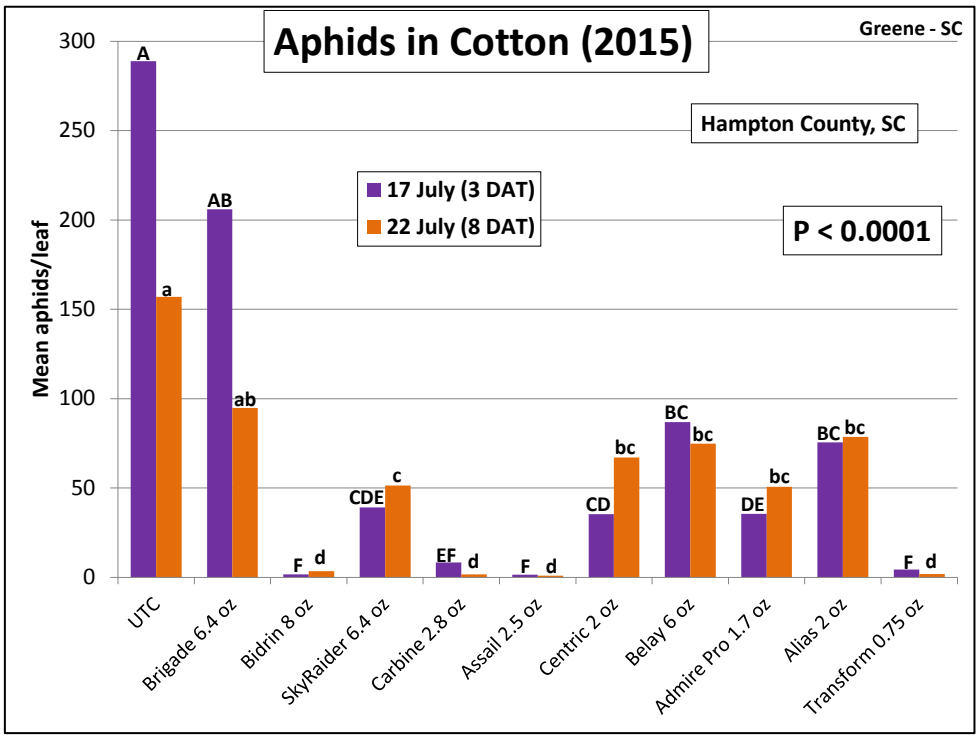
Cotton Insects

Most of the crop is out of the "thrips window" now. Some late-planted and replanted cotton will go through the same susceptible stage as seedlings, but, hopefully/typically, pressure from thrips will continue to decline. That puts us in a window before bloom where we don't want to let our guard down. As I mentioned briefly last week, we will deal with aphids, spider mites, and plant bugs for the next several weeks, until we see moths and stink bugs flying around in cotton. Stink bugs are already abundant, and non-Bt corn here at Edisto and around the southern half of the state is loading up with corn earworm, so we should have plenty to keep us busy when cotton starts blooming.



Aphids

I do not get too concerned about aphids in cotton, unless they are part of additive stresses on the crop that obviously need relief. I say this because I have seen numerous sets of data from research that indicated that aphids were not economic pests. However, in certain situations, they can cause economic losses or at least delay the crop. Those situations include severe infestations on a young crop and/or a drought-stressed crop. Having both of these conditions would be double trouble. I have observed young, droughty cotton that did benefit from an application of insecticide, so I am not recommending that you ignore aphids. After all, we cannot control stress of low moisture in dryland fields, but we can remove the stress of aphids, if we need to do so. We do have pockets of aphids yearly that have developed tolerance/resistance to the neonicotinoid insecticides (see chart), so that confounds the issue, or it might make it easier to not spray in knowing this.



Consider everything before deciding to spray cotton for aphids. If there are no doubts that you need to treat, the neonics might or might not work well. The best materials in a trial I sprayed several years ago were Assail, Transform (not labeled in cotton), Carbine, and Bidrin. Although Bidrin can look good on aphids, we DO NOT want to use it pre-bloom or during the first few weeks of bloom. That will decimate beneficial arthropods and release bollworm from natural control…not a good strategy.

Some low level of aphids in cotton can be a good thing, as they are slow-moving prey items for many generalist predators. These arthropod predators build in numbers by eating aphids, and we get the benefit of them helping control other pests, at least until it is time to spray for stink bugs and bollworm. Try to conserve beneficials as long as possible because their populations are building out there as they eat aphids and other easy-to-catch prey. Pictured above is a low-to-moderate number of aphids on the underside of a cotton leaf.

<u>Spider Mites (primarily two-spotted spider mite)</u>

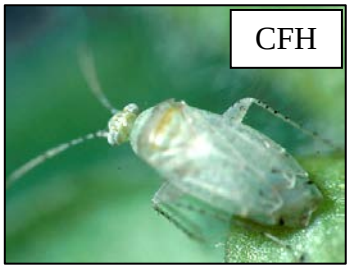
Like aphids, these arthropods are usually present in most cotton fields at some level almost all season. Also like aphids, spider mites are a plant stressor, particularly when cotton is growing in dry conditions, so we can think about them in a similar manner. Remove the stresses we can control when there is too much stress on the plant. As you know, populations of spider mites flourish in droughty conditions, so we can see too much stress on cotton when it is dry. These lengthy dry periods coupled with increasing populations of spider mites are when we need to think about spraying for spider mites. You have heard me state this before, but the best material to put on spider mites is a hard rain. Not many products can compete

with a nice hard rain. We have seen it many times before when attempting to put out efficacy trials in fields infested with spider mites – a hard rain the night before spraying a trial seems to always result in no trial being conducted. Rain like that does not always occur, and treating with miticides is sometimes needed. Checking under leaves and looking near the base of the leaf (close to the stem) in between the main veins is the first place you should check for spider mites. That is where they set up shop initially on leaves. You will need a hand lens for that, particularly if your eyes have gotten older like mine! If you miss them early, you will see stippling on the upper surface of the leaves concentrated near the venation of the leaves (pictured here). You don't want to see anything past the stippling stage of symptomology because the leaves will start to lose effective photosynthetic ability, potentially resulting in yield loss. If premature defoliation occurs due to spider mite injury, yield loss will be a certainty. Find them, and closely monitor developing populations of spider mites when they are just getting established. You will have the upper hand, if you do. Pay attention to predicted rainfall whenever deciding to treat or not for spider mites.

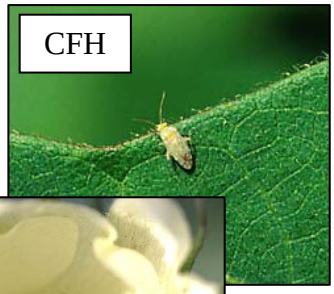
Plant Bugs

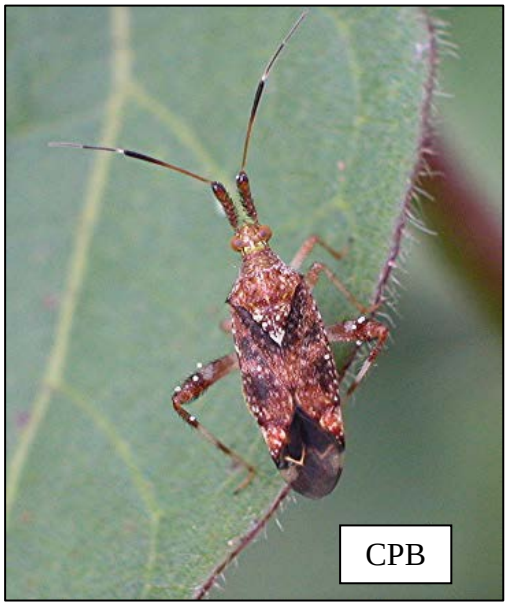
We have at least a few species of plant bugs (Miridae) that can be pests of cotton in South Carolina and much of the Southeast. Those include the tarnished plant bug (TPB), the cotton fleahopper (CFH), and the clouded plant bug (CPB). We also have the false chinch bug (FCB) (Lygaeidae), a species that looks similar to plant bugs. Just to remind you, here are some photos of what the adults and nymphs look like for these species. Of these, the TPB is the most important, so we will start with photos of TPB. Here is an adult pictured with a couple of last instar nymphs (the ones with the 5 black dots on the dorsum – these molt once more to become adults) and a couple of earlier instars. Pictured below are

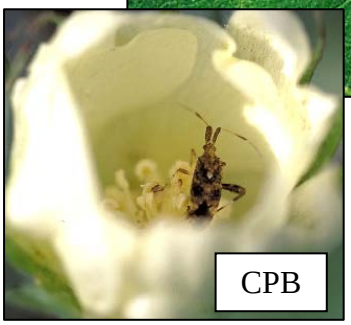
a shot of a close-up shot of a last instar nymph, an adult TPB on a flower, and a couple of someone holding adult TPB for size reference.

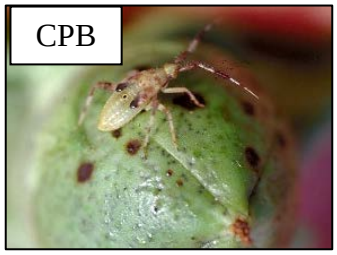


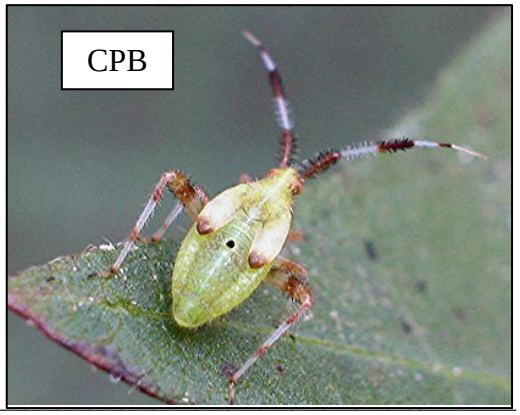
The next series of photos include cotton fleahopper and clouded plant bug. The CFH is a smaller, paler plant bug. This species is less important the TPB in South Carolina and much of the Southeast. The CPB is also not as numerous as TPB around here. CPB has distinctive characters, such as enlarged first segment of antennae and white bands on antennae and legs of nymphs.











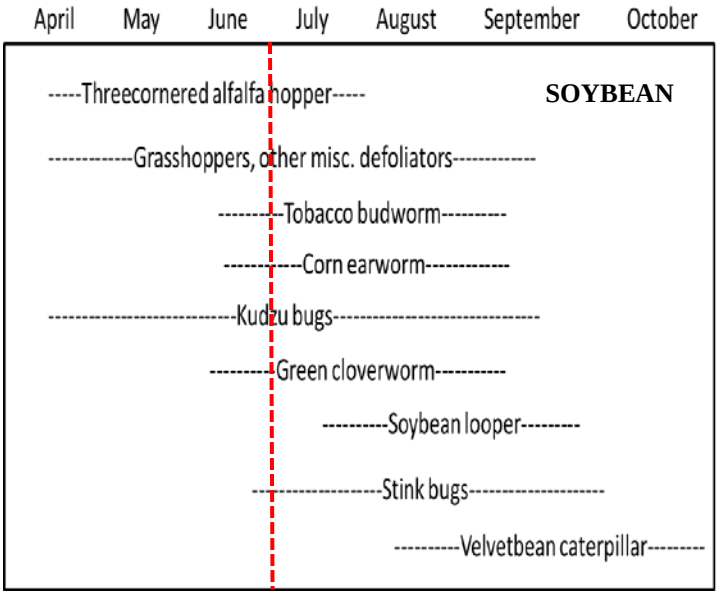
For the next few weeks, we need to be scouting for plant bugs, as they will feed on pre-floral buds (squares) and terminal growth. Our thresholds are 3 plant bugs per 6 rowft or about 1 plant bug per 10 sweeps. We also want square retention to stay above 75%. If square retention drops below this level AND threshold numbers of plant bugs are detected, it is time to intervene with insecticide. Thresholds triggered for plant bugs in cotton in South Carolina will be sporadic, but you have to check each field to see. The easiest way to check square retention is to start at the top of the plant in the new growth and look for the smallest square you can find, working down from there to check first position squares a few nodes down on the plant. Another method is to check the same position square on multiple plants. I like to check for the presence or absence of the first position square on the third or fourth node down from the top of the plant as a rapid method sometimes. If you start to notice missing first position squares, start counting on at least 25 representative plants, and see if you are above or below 75-80%. Sweep or shake for plant bugs to see if you can pin a retention problem on plant bugs being present at threshold levels. This is important because we can observe high levels of physiological shed of squares just because of the weather (hot, dry weather followed by high rainfall amounts, or days of cloudy weather followed by a change…any abrupt changes in weather, etc.). If square shed is excessive, but you cannot find any plant bugs, it is likely physiological shed, and no amount of insecticide is going to solve the problem. One exception might be made for plant bugs moving in and out of corn as adults, so check cotton near corn for plant bugs and problems with square retention. TPB and CPB can also feed on bolls later in the season, but our boll-injury thresholds should take care of most of that when we start managing stink bugs.

Soybean Situation

As of 10 June 2018, the USDA NASS South Carolina Statistical Office estimated that about 78% of our soybean crop has been planted, compared with 68% the previous week, 67% at this time last year, and 65% for the 5-year average. About 47% of the crop has emerged, compared with 36% the previous week, 47% at this time last year, and 49% for the 5-year average. These are observed/perceived state-wide averages.

Soybean Insects

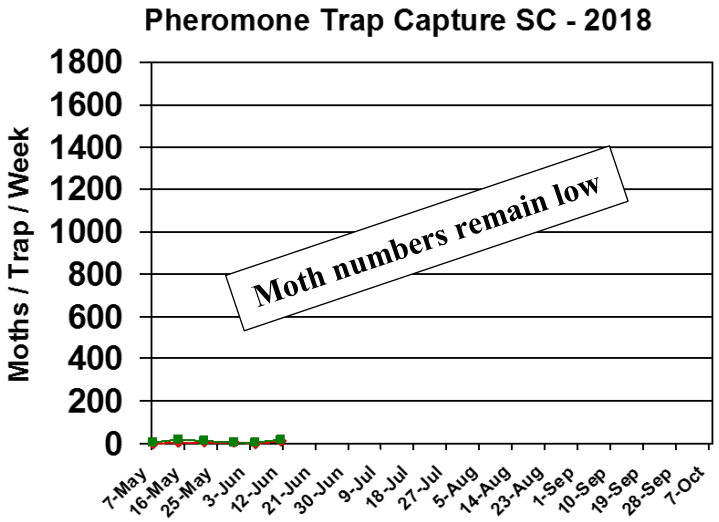
Again, there is not much to report regarding insect issues in soybeans for this past week. If you take a look at the timeline chart above, you can see what major pests you are generally at risk for at this time of year. Caterpillar pests will be here soon enough, but don't forget to scout vegetative soybeans to ensure that problems with insects are not present. Scout early soybeans for insects!

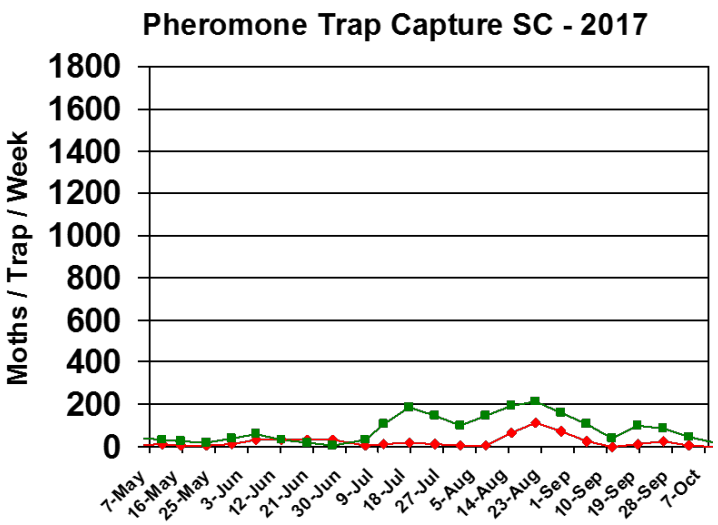


CLEMSON UNIVERSITY

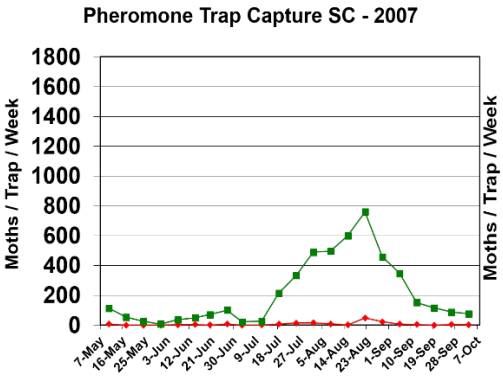
Bollworm & Tobacco Budworm

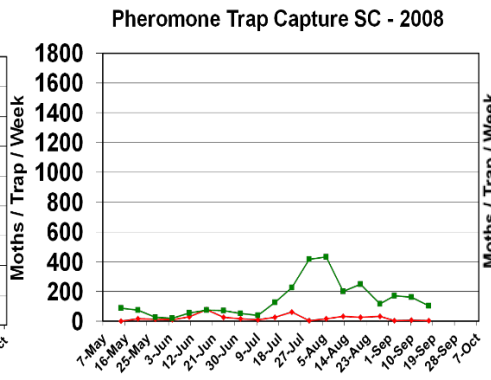
Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2017 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state.

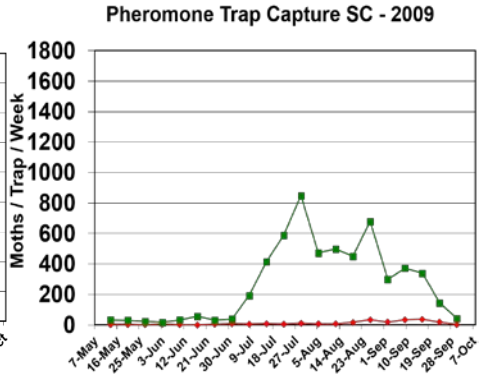


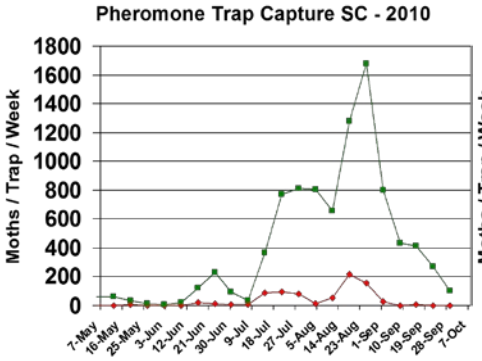


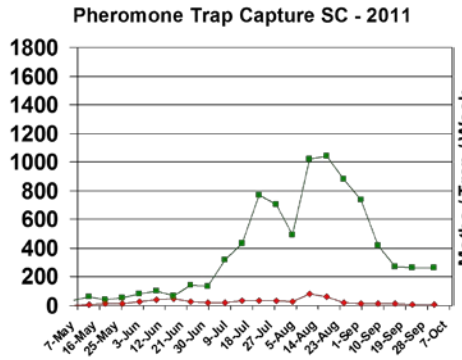
Trap data from 2007-2016 are shown below for reference to other years of trapping data from EREC:

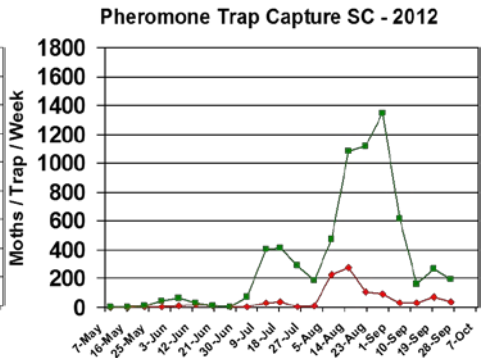


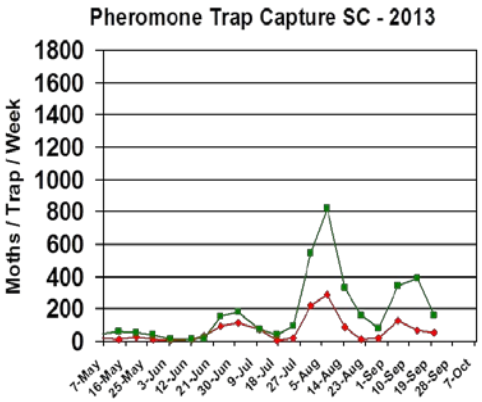


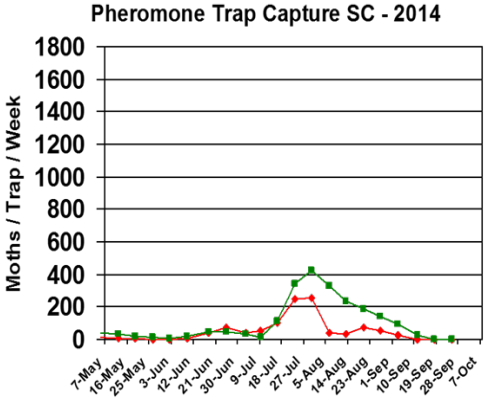


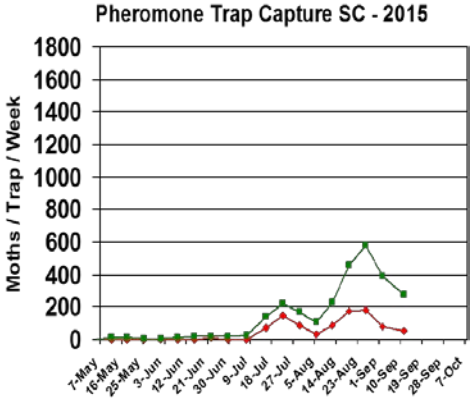


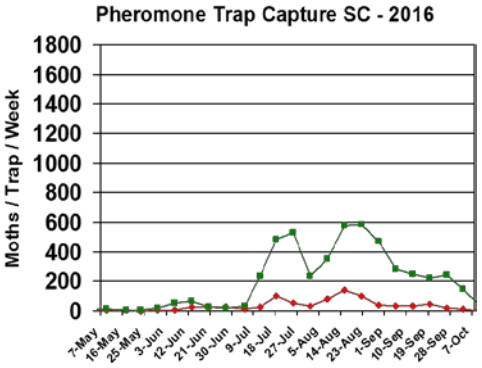








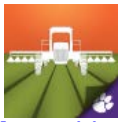




Pest Management Handbook – 2018

Insect control recommendations are available online in the 2018 South Carolina Pest Management Handbook at: http://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html

Free Mobile Apps: "Calibrate My Sprayer" and "Mix My Sprayer"



Download our free mobile apps called "Calibrate My Sprayer" and "Mix My Sprayer" that help check for proper calibration of spraying equipment and help you with mixing user-defined pesticides, respectively, in custom units (available in both iOS and Android formats):
http://www.clemson.edu/extension/mobile-apps/

Need More Information?

For more Clemson University Extension information: http://www.clemson.edu/extension/

For historical cotton/soybean insect newsletters:
http://www.clemson.edu//extension/agronomy/cotton1/newsletters.html

Sincerely,

Jeremy K. Greene, Ph.D.
Professor of Entomology

Visit our website at:
http://www.clemson.edu